

In the Claims

1 (previously presented). A polynucleotide comprising:

a) a nucleotide sequence encoding a mutant *etr1* plant ethylene receptor protein, or a fragment thereof, wherein said mutant protein, or said fragment thereof, exhibits ethylene insensitivity; and

b) a regulatory nucleotide sequence operably linked to said protein encoding nucleotide sequence, wherein said regulatory nucleotide sequence promotes transcription of said protein encoding nucleotide sequence in cells that comprise abscission zone tissue of a plant, and wherein said regulatory nucleotide sequence comprises a promoter sequence from a cotton chitinase gene comprising the nucleotide sequence shown in SEQ ID NO. 8.

2 (canceled).

3 (previously presented). The polynucleotide according to claim 1, wherein said *etr1* mutant receptor has a sequence of an *Arabidopsis thaliana* *etr1* sequence.

4 (canceled).

5 (previously presented). The polynucleotide according to claim 3, wherein said mutant receptor sequence is the *etr1-1* sequence (SEQ ID NO. 1).

6 (previously presented). The polynucleotide according to claim 5, wherein said nucleotide sequence encoding said mutant receptor sequence comprises the sequence shown in SEQ ID NO. 5.

7-13 (canceled).

14 (previously presented). A cell transformed with a polynucleotide that comprises:

- a) a nucleotide sequence encoding a mutant *etr1* plant ethylene receptor protein, or a fragment thereof, wherein said mutant protein, or said fragment thereof, exhibits ethylene insensitivity; and
- b) a regulatory nucleotide sequence operably linked to said protein encoding nucleotide sequence, wherein said regulatory nucleotide sequence promotes transcription of said protein encoding nucleotide sequence in cells that comprise abscission zone tissue of a plant, and wherein said regulatory nucleotide sequence comprises a promoter sequence from a cotton chitinase gene comprising the nucleotide sequence shown in SEQ ID NO. 8.

15 (previously presented). A plant, plant tissue, or a plant cell transformed with or bred to contain a polynucleotide that comprises:

- a) a nucleotide sequence encoding a mutant *etr1* plant ethylene receptor protein, or a fragment thereof, wherein said mutant protein, or said fragment thereof, exhibits ethylene insensitivity; and
- b) a regulatory nucleotide sequence operably linked to said protein encoding nucleotide sequence, wherein said regulatory nucleotide sequence promotes transcription of said protein encoding nucleotide sequence in cells that comprise abscission zone tissue of a plant, and wherein said regulatory nucleotide sequence comprises a promoter sequence from a cotton chitinase gene comprising the nucleotide sequence shown in SEQ ID NO. 8.

16 (canceled).

17 (previously presented). The plant, plant tissue, or a plant cell according to claim 15, wherein said *etr1* mutant receptor has a sequence of an *Arabidopsis thaliana* *etr1* sequence.

18 (canceled).

19 (previously presented). The plant, plant tissue, or a plant cell according to claim 17, wherein said mutant receptor sequence is the *etr1-1* sequence (SEQ ID NO. 1).

20 (previously presented). The plant, plant tissue, or a plant cell according to claim 19, wherein said nucleotide sequence encoding said mutant receptor sequence comprises the sequence shown in SEQ ID NO. 5.

21-26 (canceled).

27 (previously presented). The plant, plant tissue, or a plant cell according to claim 15, wherein said plant is a monocotyledonous plant.

28 (previously presented). The plant, plant tissue, or a plant cell according to claim 27, wherein said monocotyledonous plant is selected from the group consisting of rice, wheat, barley, oats, rye, sorghum, maize, lilies, banana, pineapple, turfgrass, gladiolus, and millet.

29 (previously presented). The plant, plant tissue, or a plant cell according to claim 15, wherein said plant is a dicotyledonous plant.

30 (previously presented). The plant, plant tissue, or a plant cell according to claim 29, wherein said dicotyledonous plant is selected from the group consisting of cotton, peas, alfalfa, chickpea, chicory, clover, kale, lentil, prairie grass, soybean, tobacco, potato, sweet potato, radish, cabbage, rape, apple trees, coffee, tomato, melon, citrus, beans, roses, sugar beet, squash, peppers, strawberry, carnation, chrysanthemums, impatiens, eucalyptus, and lettuce.

31 (previously presented). A method for decreasing flower, fruit, or leaf drop in a plant upon exposure to ethylene, said method comprising introducing a polynucleotide into said plant, wherein said polynucleotide comprises:

a) a nucleotide sequence encoding a mutant *etr1* plant ethylene receptor protein, or a

fragment thereof, wherein said mutant protein, or said fragment thereof, exhibits ethylene insensitivity; and

b) a regulatory nucleotide sequence operably linked to said protein encoding nucleotide sequence, wherein said regulatory nucleotide sequence promotes transcription of said protein encoding nucleotide sequence in cells that comprise abscission zone tissue of a plant, and wherein said regulatory nucleotide sequence comprises a promoter sequence from a cotton chitinase gene comprising the nucleotide sequence shown in SEQ ID NO. 8.

32 (canceled).

33 (previously presented). The method according to claim 31, wherein said *etr1* mutant receptor has a sequence of an *Arabidopsis thaliana* *etr1* sequence.

34 (canceled).

35 (previously presented). The method according to claim 33, wherein said mutant receptor sequence is the *etr1-1* sequence (SEQ ID NO. 1).

36 (previously presented). The method according to claim 35, wherein said nucleotide sequence encoding said mutant receptor sequence comprises the sequence shown in SEQ ID NO. 5.

37-42 (canceled).

43 (previously presented). The method according to claim 31, wherein said plant is a monocotyledonous plant.

44 (previously presented). The method according to claim 43, wherein said monocotyledonous plant is selected from the group consisting of rice, wheat, barley, oats, rye, sorghum, maize, lilies, banana, pineapple, turfgrass, gladiolus, and millet.

45 (previously presented). The method according to claim 31, wherein said plant is a dicotyledonous plant.

46 (previously presented). The method according to claim 45, wherein said dicotyledonous plant is selected from the group consisting of cotton, peas, alfalfa, chickpea, chicory, clover, kale, lentil, prairie grass, soybean, tobacco, potato, sweet potato, radish, cabbage, rape, apple trees, coffee, tomato, melon, citrus, beans, roses, sugar beet, squash, peppers, strawberry, carnation, chrysanthemums, impatiens, eucalyptus, and lettuce.

47-56 (canceled).

57 (previously presented). The polynucleotide according to claim 3, wherein said mutant receptor sequence is the *etr1-2* sequence (SEQ ID NO. 2).

58 (previously presented). The polynucleotide according to claim 3, wherein said mutant receptor sequence is the *etr1-3* sequence (SEQ ID NO. 3).

59 (previously presented). The polynucleotide according to claim 3, wherein said mutant receptor sequence is the *etr1-4* sequence (SEQ ID NO. 4).

60 (previously presented). The plant, plant tissue, or a plant cell according to claim 17, wherein said mutant receptor sequence is the *etr1-2* sequence (SEQ ID NO. 2).

61 (previously presented). The plant, plant tissue, or a plant cell according to claim 17, wherein said mutant receptor sequence is the *etr1-3* sequence (SEQ ID NO. 3).

62 (previously presented). The plant, plant tissue, or a plant cell according to claim 17, wherein said mutant receptor sequence is the *etr1-4* sequence (SEQ ID NO. 4).

63 (previously presented). The method according to claim 33, wherein said mutant receptor sequence is the *etr1-2* sequence (SEQ ID NO. 2).

64 (previously presented). The method according to claim 33, wherein said mutant receptor sequence is the *etr1-3* sequence (SEQ ID NO. 3).

65 (previously presented). The method according to claim 33, wherein said mutant receptor sequence is the *etr1-4* sequence (SEQ ID NO. 4).